

WHAT IS CLAIMED IS:

1. A process for preparing a supported chitosan biosorbent useful for the
5 treatment of wastewater which comprises preparing a ceramic support material, preparing a
chitosan gel, and coating said chitosan gel to said ceramic support material.

2. The process of claim 1 wherein a second surface coating of chitosan
10 gel is applied to said supported chitosan biosorbent.

3. The process of claim 1 wherein said ceramic support material
comprises acid treated alumina prepared by drying ceramic alumina, mixing the dry ceramic
alumina with an acid to form a mixture, filtering and washing the mixture to prepare a
15 washed mixture, and drying the washed mixture.

4. The process of claim 1 wherein said chitosan gel is prepared by
dissolving chitosan in an acid.

5. The process of claim 4 wherein said acid is an organic acid.

6. The process of claim 5 wherein said organic acid is selected from the
20 group consists of acetic and oxalic acid.

7. The process of claim 1 wherein said chitosan-coated biosorbent is
25 filtered under a vacuum, washed, dried and coated with a second layer of chitosan gel.

8. A biosorbent composition comprising a support material coated with
chitosan useful for the treatment of wastewater.

9. The composition of claim 8 wherein said biosorbent composition is useful for removing heavy metals from wastewater.

5 10. The composition of claim 8 wherein said support material comprises a ceramic support material.

11. The composition of claim 8 wherein said biosorbent composition is prepared by dip coating chitosan gel on to said support material.

10 12. The composition of claim 11 wherein said support material comprises a ceramic support material.

15 13. The composition of claim 10 wherein said biosorbent composition is prepared by spin coating chitosan gel on to said support material.

14. The composition of claim 13 wherein said support material comprises a ceramic support material.

20 15. A process for treating aqueous systems containing heavy metals comprising adding a chitosan-coated biosorbent to an aqueous system.

16. The process of claim 15 wherein said chitosan-coated biosorbent comprises a support material coated with chitosan gel.

25 17. The process of claim 15 wherein said support material comprises a ceramic support material.

18. The process of claim 15 wherein the aqueous systems are aqueous waste streams.

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19. A biosorbent composition comprising a support material coated with chitosan, its equivalents and the like useful for the treatment for wastewater.

20. A process for preparing a biosorbent useful for the treatment of wastewater which comprises preparing a ceramic support material, preparing a gel, and coating said gel to said ceramic support material, wherein said gel comprises chitosan, its equivalents and the like.

21. A process for treating aqueous systems containing heavy metals comprising adding a biosorbent to an aqueous system, wherein said biosorbent comprises a coating of chitosan, its equivalents and the like.